

No.

9800139



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**D&H Technology Holding Corp.**

Whereas, THERE HAS BEEN PRESENTED TO THE

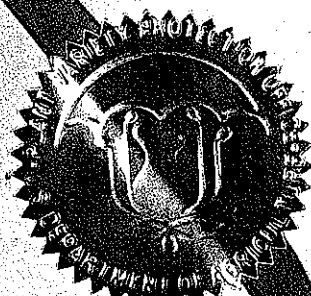
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1506, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'DP 4750 RR'



*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighteenth day of February, in the year two thousand and four.*

Attest:

*[Signature]*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*

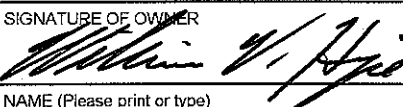
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>D&amp;PL Technology Holding Corp.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>DPX 9745 RR</b>		3. VARIETY NAME <b>DP 4750 RR</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country ) <b>PO Box 157 100 Main Street Scott, Mississippi 38772 USA</b>		5. TELEPHONE (include area code) <b>(662) 742-4141</b>		PVPO NUMBER <b>9800139</b>	
		6. FAX (include area code) <b>(662) 742-3182</b>		FILING DATE <b>2/27/1998</b>	
7. IF THE OWNER IS NOT A "PERSON" GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Delaware</b>		9. DATE OF INCORPORATION <b>February 29, 1996</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Delta and Pine Land Company Kelly Casavechia P.O. Box 157 Scott, MS 38772</b>				FILING AND EXAMINATION FEE: <b>\$ 2,450.00</b> DATE <b>2/27/1998</b> CERTIFICATION FEE: <b>\$ 432.00</b> DATE <b>2/6/2004</b>	
11. TELEPHONE (include area code) <b>(662) 742-4141</b>		12. FAX (include area code) <b>(662) 742-3182</b>		13. E_MAIL <b>kelly.h.casavechia@deltaandpine.com</b>	
				14. CROP KIND (Common Name) <b>Soybean</b>	
15. GENUS AND SPECIES NAME OF CROP <b>Glycine Max</b>		16. FAMILY NAME (Botanical) <b>Leguminosae</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse). a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		
			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO - As of date of original application 2/20/98 IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER		
NAME (Please print or type) <b>William V. Hugie</b>			NAME (Please print or type)		
CAPACITY OR TITLE <b>Vice President/Director of Research</b>		DATE <b>10/14/02</b>		CAPACITY OR TITLE	
				DATE	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

#### ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieites, lines, or clones used, and the breeding method  
(2) the details of subsequent stages of selection and multiplication;  
(3) evidence of uniformity and stability; and  
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) Identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

ROUNDUP READY® ~~soybean~~ Soybean (bt:11/29/2002)

These seeds are covered under U.S. Patents 5,633,435; 5,352,605; 5,530,196; 5,188,642; 4,940,835; 5,717,084; 5,728,925; and 5,804,425.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U. S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

## EXHIBIT A

### DELTAPINE SEED'S APPLICATION FOR DP 4750 RR

9800139

#### ORIGIN AND BREEDING HISTORY

Summer	1993	Cross 93-269 made between CM 428 and the F <sub>1</sub> of [TN6-90 x DPX 3541 x 2384 (2) x 40-3-2)]
Winter	1993-94	F <sub>1</sub> advanced to the F <sub>2</sub> under lights in Costa Rica spraying with Roundup™ to eliminate non Roundup™ susceptible plants.
Summer-Fall	1994	F <sub>2</sub> advanced to the F <sub>4</sub> by modified single seed descent. Each generation sprayed with Roundup™ to eliminate Roundup™ susceptible plants.
Winter	1994-95	F <sub>4</sub> seed planted and F <sub>4</sub> Roundup™ tolerant plants were harvested and threshed separately from cross 93-269.
Summer	1995	About 200 F <sub>4</sub> plant rows from cross 93-269 grown at Scott, MS. Row 95-01418 was selected, composited and determined to be <del>breeding true</del> <sup>uniform and stable (BT:12/4/02 per applicant's request)</sup> for Roundup™ tolerance and the characteristics described in "Exhibit C" of this application. No known variants were observed.
	1996-97	95-01418 was yield tested as DPX 9745 RR. Breeder seed purification and Foundation seed increase was conducted in both Costa Rica and the U.S. using Roundup™ herbicide over the crop to control weeds. DPX 9745 RR increased to 2800 bushels.
	1998	DPX 9745 RR was designated and will be released as DP 4750 RR.

EXHIBIT B

DELTAPINE SEED'S APPLICATION FOR DP 4750 RR

9800139

NOVELTY STATEMENT

To our knowledge DP 4750 RR most resembles CM 428, one of its parents. Differences include but are not restricted to the following:

- 1) DP 4750 RR is tolerant to the herbicide Roundup™ whereas CM 428 is susceptible.
- 2) DP 4750 RR has tawny pubescence whereas CM 428 has light tawny pubescence.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

FORM NO. 0581-0056

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Deltapine Seed	TEMPORARY DESIGNATION DPX 9745 RR	VARIETY NAME DP 4750 RR
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 100 Main Street, Scott, MS 38772		FOR OFFICIAL USE ONLY PVPO NUMBER 9800139

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,  ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 - Spherical (L/W, L/T, and T/W ratios = < 1.2)  
3 - Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 - Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
4 - Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 - Yellow    2 - Green    3 - Brown    4 - Black    5 - Other (Specify) \_\_\_\_\_

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 - Dull ('Conroy 79'; 'Braxton')    2 - Shiny ('Nebo'; 'Gosoy 171')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 - Buff    2 - Yellow    3 - Brown    4 - Gray    5 - Imperfect Black    6 - Black    7 - Other (Specify) \_\_\_\_\_

★ 6. COTYLEDON COLOR: (Mature Seed)

1 - Yellow    2 - Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 - Low    2 - High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 - Type A (SP1<sup>a</sup>)    2 - Type B (SP1<sup>b</sup>)

★ 9. HYPOCOTYL COLOR:

1 - Green only ('Evans'; 'Davis')    2 - Green with bronze band below cotyledons ('Woodworth'; 'Tracy')  
3 - Light Purple below cotyledons ('Beeson'; 'Pickett 71')  
4 - Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 - Lanceolate    2 - Oval    3 - Ovate    4 - Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☐ 21 - Small ('Amsoy 71'; 'AS312')  
3 - Large ('Crawford'; 'Tracy')

2 - Medium ('Corsoy 79'; 'Gasoy 17')

## 12. LEAF COLOR:

☐ 31 - Light Green ('Weber'; 'York')  
3 - Dark Green ('Gnome'; 'Tracy')

2 - Medium Green ('Corsoy 79'; 'Braxton')

## ★ 13. FLOWER COLOR:

☐ 2

1 - White

2 - Purple

3 - White with purple throat

## ★ 14. POD COLOR:

☐ 2

1 - Tan

2 - Brown

3 - Black

## ★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 - Gray

2 - Brown (Tawny)

## 16. PLANT TYPES:

☐ 31 - Slender ('Essex'; 'Amsoy 71')  
3 - Bushy ('Gnome'; 'Govan')

2 - Intermediate ('Amcor'; 'Braxton')

## ★ 17. PLANT HABIT:

☐ 3

1 - Determinate ('Gnome'; 'Braxton')

2 - Semi-Determinate ('Will')

3 - Indeterminate ('Nebsoy'; 'Improved Pelican')

## ★ 18. MATURITY GROUP:

☐ 0 ☐ 7

1 - 000

2 - 00

3 - 0

4 - I

5 - II

6 - III

7 - IV

8 - V

9 - VI

10 - VII

11 - VIII

12 - IX

13 - X

## ★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

★

☐ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycines*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐

Race 1

☐

Race 2

☐

Race 3

☐

Race 4

☐

Race 5

☐ 1

Other (Specify)

☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)

9800139

Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)

- ★ ☐ 1 Race 1 ☐ Race 2 ☐ Race 3 ☐ Race 4 ☐ Race 5 ☐ Race 6 ☐ Race 7
- ☐ Race 8 ☐ Race 9 ☐ Other (Specify) \_\_\_\_\_

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 2 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode (*Heterodera glycines*)

- ★ ☐ Race 1 ☐ Race 2 ☐ 1 Race 3 ☐ Race 4 ☐ 1 Other (Specify) Race 14

- ☐ 0 Lance Nematode (*Hoplodaimus Colonus*)

- ★ ☐ 1 Southern Root Knot Nematode (*Meloidogyne incognita*)

- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapt*)

- ☐ 1 Peanut Root Knot Nematode (*Meloidogyne arenaria*)

- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)

- ☐ 0 OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ 0 Other (Specify) \_\_\_\_\_

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 2 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	CM 428	Seed Coat Luster	CM 428
Leaf Shape	GM 428	Seed Size	CM 428
Leaf Color	CM 428	Seed Shape	CM 428
Leaf Size	CM 428	Seedling Pigmentation	CM 428



21. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
DP 4750 RR Submitted	118	1.8	79					16	
CM 428 Name of Similar Variety	115	2.0	74					16	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.J. and R.J. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

05 JUN 72 11 33

04 JUN 72 11 33

## EXHIBIT D

### DELTAPINE SEED'S APPLICATION FOR DP 4750 RR

9800139

#### ADDITIONAL DESCRIPTION OF VARIETY

DP 4750 RR is a mid-late group IV F<sub>4</sub> Roundup Ready™ selection composited in the F<sub>5</sub> generation from the cross DP 3478 x [TN6-90 x (DP 3541 x 2384 (2) x 40-3-2)]. Plants are tall with purple flowers, tawny pubescence and brown pods. Seeds average 3000 per pound and are dull yellow with black hila. DP 4750 RR is resistant to stem canker and field tolerant to phytophthora root rot. It is susceptible to cyst and root knot nematodes.

# DP 4750 RR

## PRODUCT SUMMARY SHEET

### KEY FEATURES

Late group IV with competitive yield  
Tall growth with very good standability  
Resistant to stem canker  
Resistant to soybean mosaic virus

### PRODUCT DESCRIPTION

<u>Trait</u>	<u>Phenotype</u>
Relative maturity	4.8
Roundup Ready™	Yes
STS®	No
Flower color	Purple
Pubescence color	Tawny
Hilum color	Black
Podwall color	Brown
Seed size	Medium - 3000 SD/LB
Seed protein	Untested
Seed oil	Untested
Peroxidase reaction	Untested
Seedcoat luster	Dull
Hypocotyl color	Purple
Seed shape	Spherical Flattened
Leaflet size	Medium
Leaflet color	Dark Green
Canopy	Full
Growth habit	Indeterminate
SCN race 3	Susceptible
SCN race 14	Susceptible
Common root knot	Susceptible
Peanut root knot	Susceptible
Javanese root knot	Susceptible
Lance nematode	Untested
Frogeye leafspot	Susceptible
Sudden death	Untested
Stem canker	Resistant
Phytophthora root rot	Field Tolerant
Red crown rot	Untested
Chloride tolerance	Unknown
SMV	Resistant
Aerial Blight	Untested

### BREEDER'S SUBJECTIVE RATINGS

Narrow rows                      Very Good

Wide rows	Excellent
No-till	Excellent
Late planting	Very Good
Poorly-drained soils	Excellent
Shatter resistance	Excellent

### PRODUCT IDENTITY

9800139

Line selected by:	Dr. Grover Shannon
Suggested name:	DP 4750 RR
Former designation:	DPX 745 RR, 95-01418
Pedigree:	DP 3478 x 93257
Areas of adaptation:	Midsouth And Southeast
Replace:	New Product
Complement:	DP 3478
Main competition:	Asgrow, Novartis, and Hartz GRP IV roundup varieties
Most similar line:	DP 3478

### YIELD HISTORY

Yields are competitive with DP 3478, ranked 7 out of 24 in 7 Midsouth trials and 2 out of 12 in 2 Southeast trials.

### KNOWN WEAKNESSES

Susceptible to nematodes  
Susceptible to frogeye leaf spot

### SEED STOCK STATUS

There are approximately 2800 units of seed for sale and increase for 1998.

### ADDITIONAL DESCRIPTION

DP 4750 RR is a Mid-late group IV F<sub>4</sub> roundup ready selection composited in the F<sub>5</sub> generation from the cross DP 3478 X [TN6-90 X (DP X 3541 X 2384 (2) X 40-3-2)]. Plants are tall with purple flowers, tawny pubescence and brown pods. Seeds are dull yellow with black hila. There may be up to 1% plants with either/or white flowers, grey pubescence and hila other than black. DP 4750 RR is resistant to stem canker and field tolerant to phytophthora root rot. It is susceptible to cyst and root knot nematodes.

# **DP 4750 RR** **PRODUCT PERFORMANCE**

## **Combined data, all locations:**

	<u>YIELD</u>		<u>MAT*</u>	<u>HGT</u>	<u>LDG</u>
	<u>bu/ac</u>	<u>%YLD</u>			
DP 3478	51.7	100	0	29	2.0
<b>DP 4750 RR</b>	<b>50.6</b>	<b>98</b>	<b>+2</b>	<b>31</b>	<b>1.8</b>
DP 4344 RR	42.8	83	-6	30	2.0

Locations	9	9	3	7	7
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\* - indicates days earlier and + equal days later than DP 3478

## **Midsouth data**

### Midsouth, all locations

	<u>YIELD</u>		<u>MAT*</u>	<u>HGT</u>	<u>LDG</u>
	<u>bu/ac</u>	<u>%YLD</u>			
DP 3478	45.7	100	0	29	2.0
<b>DP 4750 RR</b>	<b>44.4</b>	<b>97</b>	<b>+2</b>	<b>31</b>	<b>1.8</b>
DP 4344 RR	36.0	79	-6	30	2.0

Locations	7	7	3	7	7
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\* - indicates days earlier and + equal days later than DP 3478

## **Midsouth, by state:**

	<u>YIELD</u>		<u>AR</u>	<u>LA</u>	<u>MS</u>	<u>TN</u>	<u>TX</u>
	<u>bu/ac</u>	<u>%YLD</u>					
DP 3478	45.7	100	30.0	43.5	58.8	50.0	36.0
<b>DP 4750 RR</b>	<b>44.4</b>	<b>97</b>	<b>36.0</b>	<b>36.0</b>	<b>59.0</b>	<b>48.0</b>	<b>37.0</b>
DP 4344 RR	36.0	79	25.0	33.5	47.5	41.0	26.0
Locations	7	7	1	2	2	1	1

**DP 4750 RR**  
**PRODUCT PERFORMANCE**

**Southeast data:**

**Southeast, all locations:**

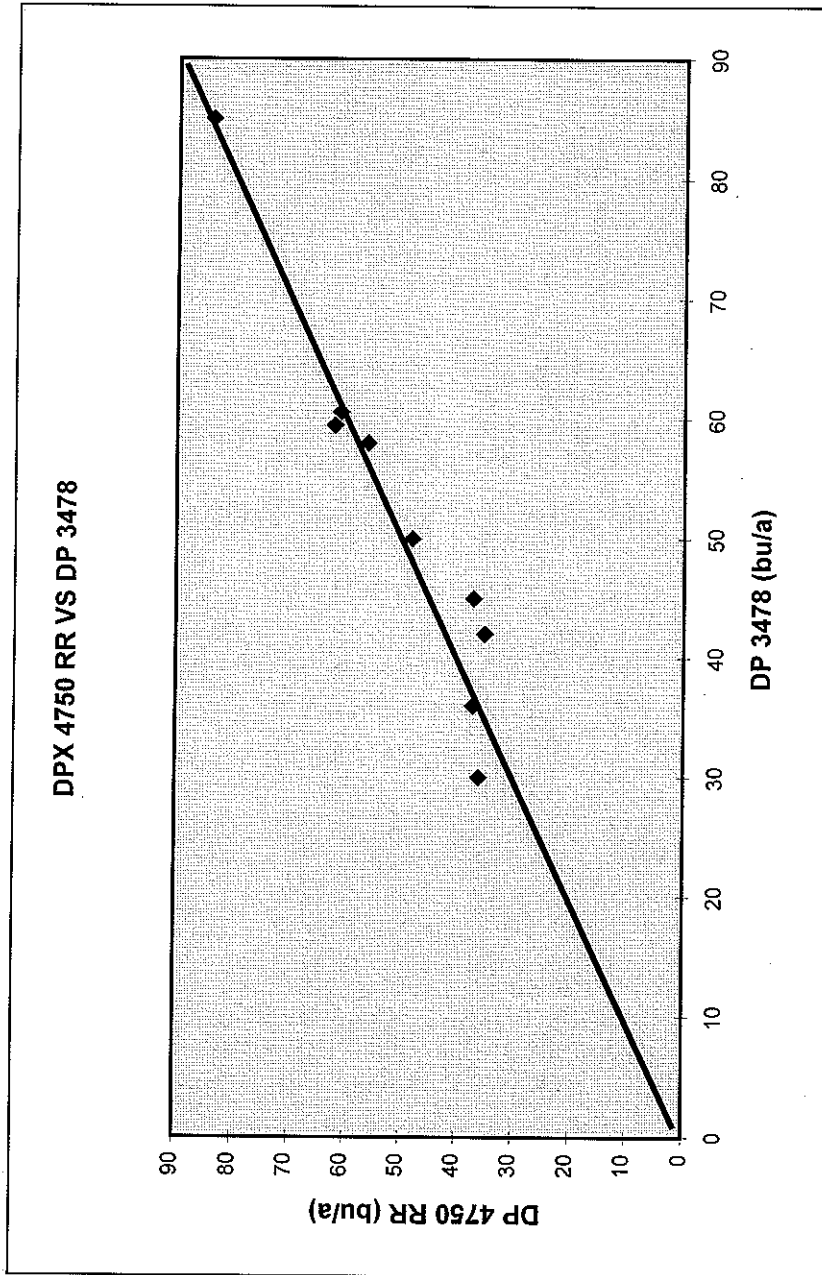
	YIELD	
	<u>bu/ac</u>	<u>%YLD</u>
DP3478	72.8	100
<b>DP 4750 RR</b>	<b>72.4</b>	<b>99</b>
DP 4344 RR	66.7	92
Locations	2	2

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**Southeast, by state:**

	YIELD		<u>NC</u>
	<u>bu/ac</u>	<u>%YLD</u>	
DP 3478	72.8	100	72.8
<b>DP 4750 RR</b>	<b>72.4</b>	<b>99</b>	<b>72.4</b>
DP 4344 RR	66.7	92	66.7
Locations	2	2	2

# DP 4750 RR PRODUCT PERFORMANCE



This scattergram illustrates head-to-head performance of DP 4750 RR compared to DP 3478. In nine comparisons, DP 4750 RR outyielded DP 3478 four times

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**DP 4750 RR**  
DISEASE REACTION DOCUMENTATION

Soybean Cyst Nematode (*Heterodera glycines*)

Data from Dr. Lawrence Young, USDA, Jackson, Tennessee 1997

<u>Line</u>	Race 3 Score <u>1997</u>	Race 14 Score <u>1997</u>
DP 4344 RR	4.7	4.7
<b>DP 4750 RR</b>	<b>4.8</b>	<b>5.0</b>
RES. CHK	1.0	3.2
SUS. CHK	5.0	4.9

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Scale: 1= 0 to 5 females/plant, 2= 6 to 10, 3= 11 to 20, 4 = 21-40, 5 = more than 40 females/plant

Root Knot Nematode (*Meloidogyne incognita* and *M. arenaria*)

Data from Dr. Robert Kinloch, Univ. of Florida, Jay, Florida 1997

<u>Line</u>	<u>M.I.</u> Score <u>1997</u>	<u>M.A.</u> Score <u>1997</u>
DP 4344 RR	3.5	5.0
<b>DP 4750 RR</b>	<b>4.0</b>	<b>5.0</b>
RES. CHK	2.5	3.0
SUS. CHK	4.5	5.0

Scale: 1=no galling, 5=very severe galling

Stem Canker (*Diaporthe phaseolorum* (Cooke & Ellis) Sacc. f. sp. *meridionalis* (Morgan-Jones)

Data from Dr. Grover Shannon, Deltapine Seed, Scott, Mississippi 1997

<u>Line</u>	<u>1997</u>
DP 4344 RR	1.0
<b>DP 4750 RR</b>	<b>1.0</b>
RES. CHK	1.0
SUS. CHK	5.0

Scale: 1=no disease , 5=very severe

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**DP 4750 RR**  
**DISEASE REACTION DOCUMENTATION**

**FROGEYE LEAF SPOT**

DP 4750 RR is susceptible to frog-eye leaf spot based on limited tests.

**SUDDEN DEATH SYNDROME**

DP 4750 RR is untested against sudden death syndrome.

**AERIAL BLIGHT**

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DP 4750 RR is untested to aerial blight.

**HERBICIDE TOLERANCE**

DP 4750 RR has no known sensitivity to common soybean herbicides used according to the label. However it is untested against the herbicide Authority.

**CHLORIDE TOLERANCE**

DP 4750 RR reaction to high chloride is unknown.

**SEED STOCK**

There are approximately 2800 units of commercial seed of DP 4750 RR.



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  D&PL TECHNOLOGY HOLDING CORP.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  DPX 9745 RR	3. VARIETY NAME  DP 4750 RR
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  P.O. BOX 157 SCOTT, MISSISSIPPI 38772	5. TELEPHONE (Include area code)  662.742.4141	6. FAX (Include area code)  662.742.3182
7. PVPO NUMBER  9800139		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES
 ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES
 ☐ NO

10. Is the applicant the original owner?

☒ YES
 ☐ NO
 If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES
 ☐ NO
 If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES
 ☐ NO
 If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

**DP 4750 RR contains a proprietary gene, patented by the Monsanto Company and licensed to D&PL, which encodes a protein which provides tolerance to glyphosate herbicide in soybean cultivars.**

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

## EXHIBIT E

### DELTAPINE SEED'S APPLICATION FOR DP 4750 RR

#### STATEMENT OF APPLICANT'S OWNERSHIP

9800139

DP 4750 RR was originated and developed by Grover Shannon, Ph.D., soybean breeder, Delta and Pine Land Company, dba Deltapine Seed. By agreement between employee and Delta and Pine Land Company, all rights to any invention or discovery are assigned to the Company. No rights to any invention or discovery are retained by the employee.